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PROGRAM AND ABSTRACTS

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Towards a risk mapping of *Culicoides*-borne diseases in Morocco

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Vector abundance maps are a necessary step in mapping the risks associated with vector-borne diseases to help target surveillance and control actions. Risk mapping requires sampling vector species at different scales, which is made difficult by heterogeneity in vector spatial distribution and dynamics. In Morocco, *Culicoides* were responsible for African horse sickness (AHS) outbreaks in the 1960s and late 1980s. Since 2004, Morocco is facing an endemic situation of bluetongue virus (BTV) transmission. Our study aimed to produce first abundance maps for the most abundant *Culicoides* species, and risk maps for BTV and AHSV, across the country. We conducted a national cross-sectional survey using a stratified sampling strategy based on eco-agronomic zoning, for which we hypothesized the homogeneity of *Culicoides* diversity and dynamics. Historical collection time series were used to determine maximum abundance periods based on climate zonation. This strategy allowed to plan a national sampling of *Culicoides* abundance during a single collection season. Collections were conducted twice a year with 144 farms trapped. *Culicoides* were sampled for consecutive 48h using a suction light trap. We obtained a total of 262 samples under identification process. The results so far have shown that *C. imicola* was the most common species (present in at least 70% of the sites), followed by *C. circumscriptus* (absent at mild altitudes) and *C. kingi* (mostly present in the south). *Culicoides obsoletus/C. scoticus* have been collected frequently in the country, including in the south. This highlighted the wide and unexpected spatial distribution of these species from Scandinavia to North Africa reinforcing the existence of sibling species. Other species have also been identified, such as *C. puncticollis*, *C. newsteadi*, *C. catanei/C. gegjelensis* (rather present in the north on the coast), *C. punctatus* (rare in the south), *C. pulicaris/C. lupicaris* and *C. kurensis*. Interestingly, although *C. paolae* is mentioned in the literature as being associated with prickly pears in the Mediterranean basin, this species was absent in many areas heavily vegetated by this fig tree. This original dataset will be used to determine the ecological factors of the abundance and distribution of *Culicoides* of veterinary interest in order to provide accurate mapping of vector-related risks across Morocco.